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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/776,173

02/12/2004

Tadashi Sawayama

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3762

5514 7590 04/11/2007  
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EXAMINER

KACKAR, RAM N

ART UNIT

PAPER NUMBER

1763

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/11/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/776,173

Applicant(s)

SAWAYAMA ET AL.

Examiner

Ram N. Kackar

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-3, 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (US 5819683) in view of Parry et al (US 4746500) and further in view of Pang et al (US 6194628).**

Ikeda et al disclose a process of treatment of exhaust gas (Abstract), which contains unaffected gas, and by products from a vacuum processing apparatus for CVD or etch (Col 1 lines 10-20) by a trap, which contains heated filament (coil) in the path of the exhaust gas.

Ikeda et al further teach that the trap could be of any configuration provided it can produce heat such as tungsten (Col 8 lines 12-20). Further Ikeda et al disclose the trap to comprise a double wall structure for cooling purpose.

Regarding temperature it is noted that the temperature is specific to decomposition of a particular gas and is therefore result effective parameter and could be optimized.

However, temperature above 1000°C is disclosed by Parry et al (Col 2 line 30-35).

Parry et al further disclose a process of treatment of exhaust gas (Abstract), which contains unaffected gas, and by products from a vacuum processing apparatus (Abstract) by a trap, which contains heated filament (coil) in the path of the exhaust gas (Fig 1 and 2). Further

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Parry et al teach that the decomposition could be done by plasma or alternately by a heated filament (Abstract and Col 2 line 29-35).

Therefore it would have been obvious for one of ordinary skill in the art to use filament temperatures higher than 1000°C in order to decompose exhaust components, which need higher temperature.

Ikeda et al in view of Parry et al do not explicitly teach the use of above process for silicon or its compound based exhaust gases and powdery by-products. However Parry et al teach that the decomposition could be done by plasma or alternately by a heated filament, teaching thereby that the two processes are equivalent and heated trap could be used for silicon based powdery by-products too.

Pang et al disclose a process of treatment of silicon or its compound based exhaust gases and powdery by-product from a vacuum processing apparatus for by plasma (Abstract, Fig 2 and Fig 3 and Col 1 lines 21-30, Col 2 lines 34-53, Col 4 line 59- Col 5 line21 and lines 51-62) by decomposing it to gaseous products.

Therefore it would have been obvious for one of ordinary skill in the art to use this process of heated filament for decomposing silicon-based by-products.

**3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (US 5819683) in view of Parry et al (US 4746500) and Pang et al (US 6194628) as applied to claims 1-3, 5 and 11 and further in view of Shingo Murakami (US 4901668).**

Ikeda et al do not disclose the vacuum processing apparatus to be a photo CVD apparatus.

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Since the process of exhaust gas treatment depends only upon the gas and not where it came from the disclosed process of Ikeda et al read on the claim.

However, Murakami discloses treatment of exhaust gas from a vacuum processing apparatus for photo CVD (Abstract and Fig 1).

Therefore using the exhaust gas treatment for an apparatus with photo CVD would have been obvious for one of ordinary skill in the art at the time of invention.

### ***Response to Arguments***

Applicant's arguments filed 3/2/2007 have been fully considered but they are not persuasive. Regarding the shape of the filament as an added limitation, Ikeda et al already teaches that the shape is material only to ensure good contact with the exhaust gas.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

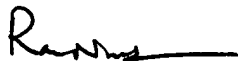
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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N. Kackar whose telephone number is 571 272 1436. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571 272 1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ram Kackar  
Primary Examiner AU 1763